



US EPA RECORDS CENTER REGION 5

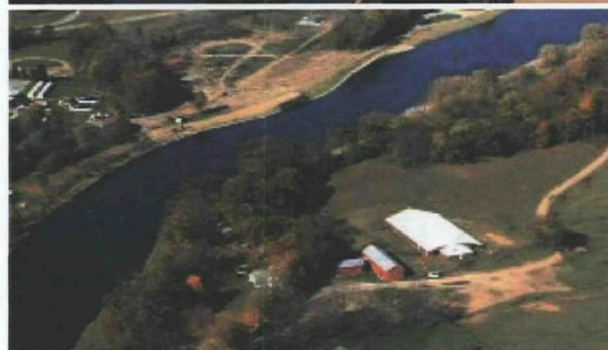
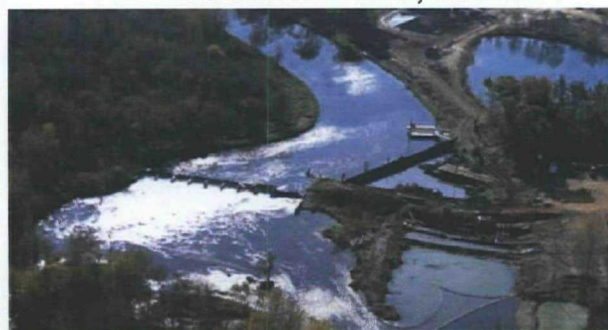


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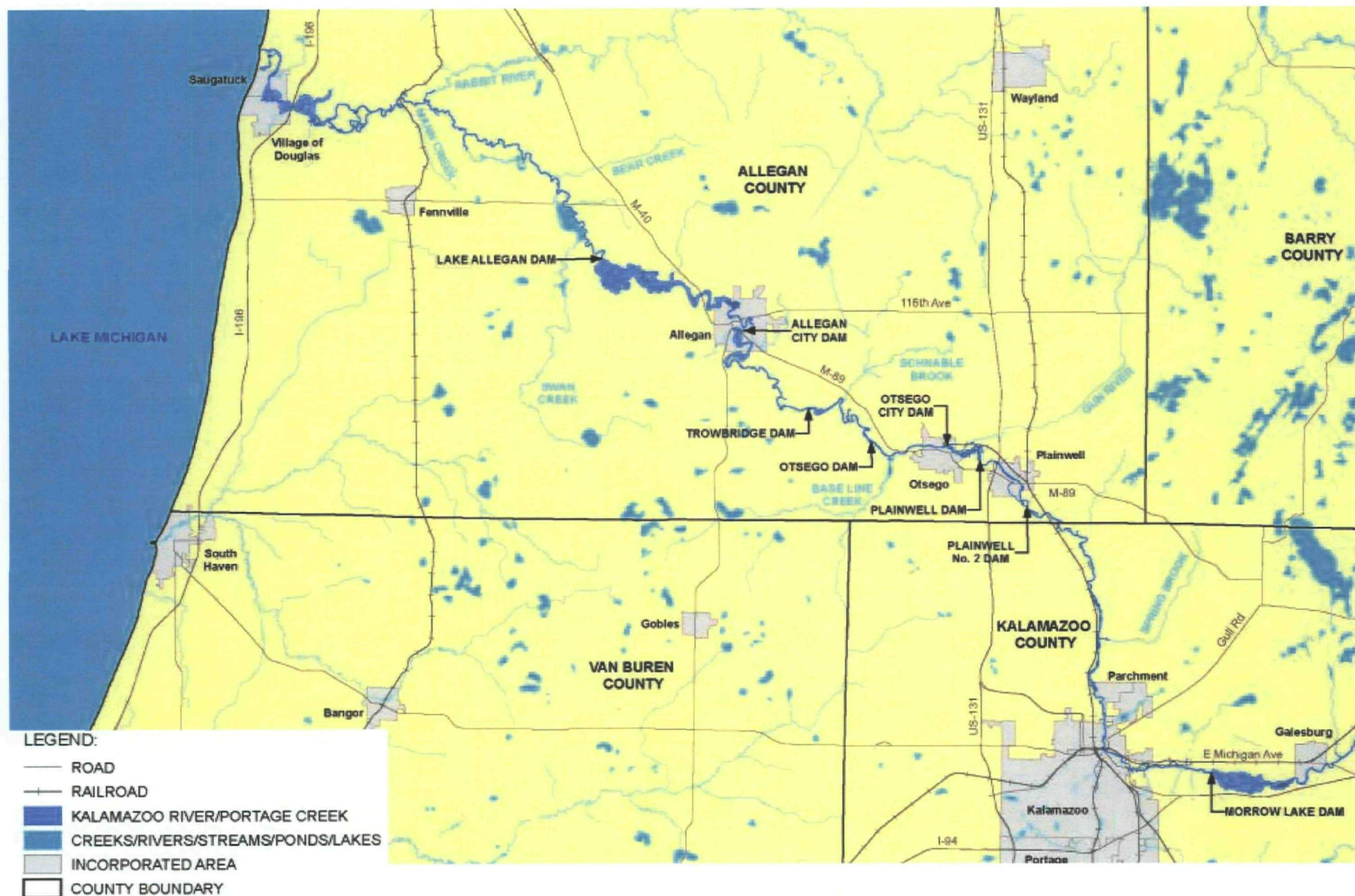
Kalamazoo River Superfund Site

Allied Paper, Inc. Operable Unit and Plainwell Removal Action

USEPA, MDEQ, and KRSG Meeting and Site Tour
October 7 & 8, 2008



Kalamazoo River Superfund Site



Kalamazoo River Superfund Site:

Fast Facts

- Added to the National Priorities List in 1990
- Site spans nearly 80 miles of river in urban, rural, forested, agricultural, and marshland areas
- KRSG, USEPA, and State of Michigan investigations of the Site over the past 15 years have resulted in an extensive Site-specific database:
 - Sediment: 3000+ sediment cores, 7100+ sediment samples
 - Exposed Sediment: 1400 samples
 - Floodplain Soils: 1270 samples
 - Surface Water: 900+ samples
 - Biota: 2300+ samples
- There are fish consumption advisories in place for Portage Creek and the Kalamazoo River urging the public to avoid or restrict consumption of fish; however, according to the Michigan Department of Public Health “recreational activities and water sports on the river are safe to enjoy.”

Kalamazoo River Superfund Site: Current Work at the Site

- The February 2007 Supplemental Remedial Investigation/Feasibility Study Administrative Order on Consent (SRI/FS AOC) governs current work at the Site
- The Site is divided into several Operable Units, which are specific areas of the Site where work can proceed independently
 - Allied Paper, Inc. Operable Unit is OU1
 - The Kalamazoo River from Morrow Dam to Lake Michigan and a 3-mile stretch of Portage Creek downstream of the Allied OU is OU5
- At the Allied OU, the next step will be a Feasibility Study, which is an assessment of potential final cleanup options
- For the River and Creek, new investigations will be carried out in each of seven Areas – work in Area 1 (Morrow Dam to Plainwell Dam) began in September 2007

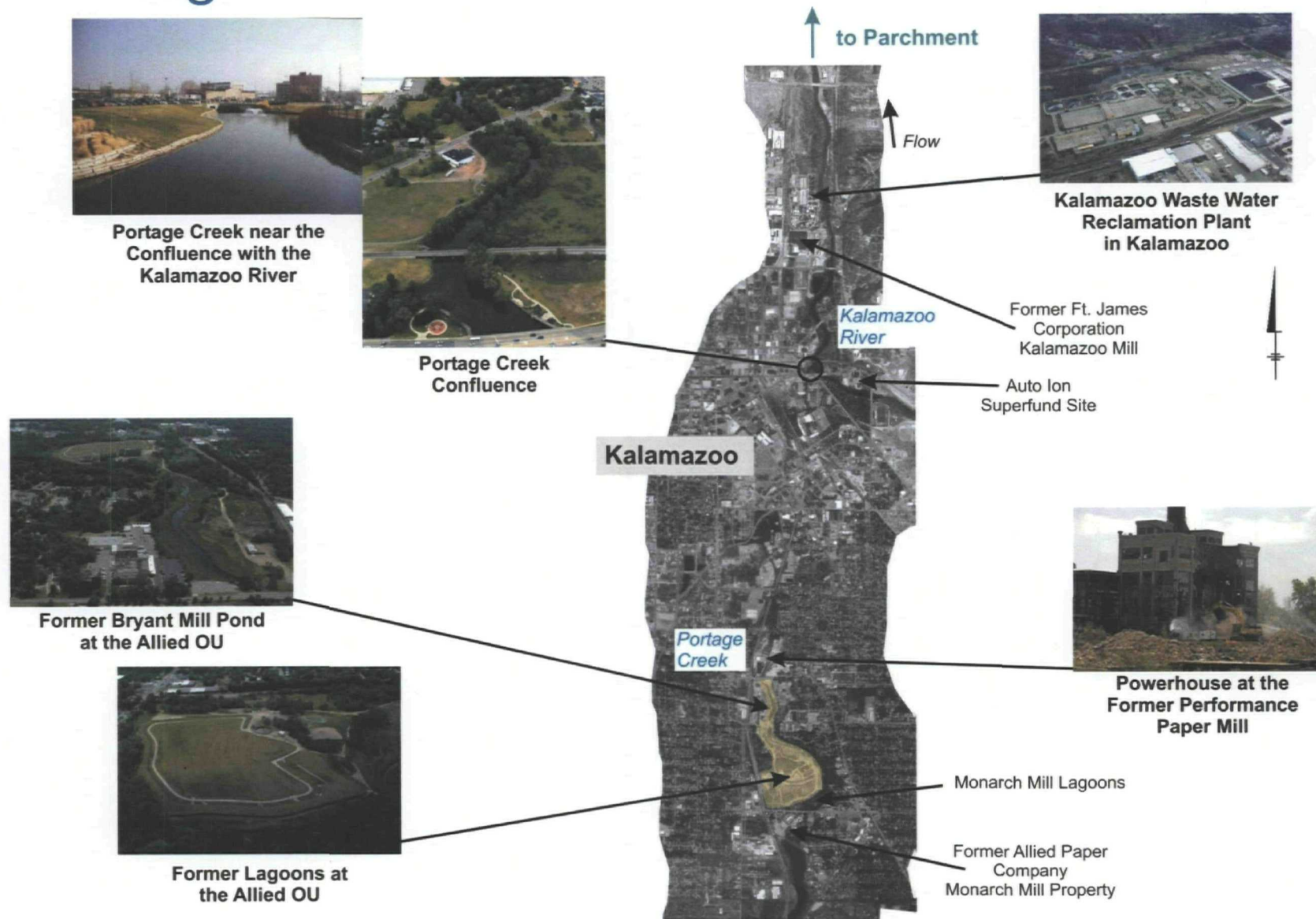


Summary of Response Actions Completed or Underway at the Site

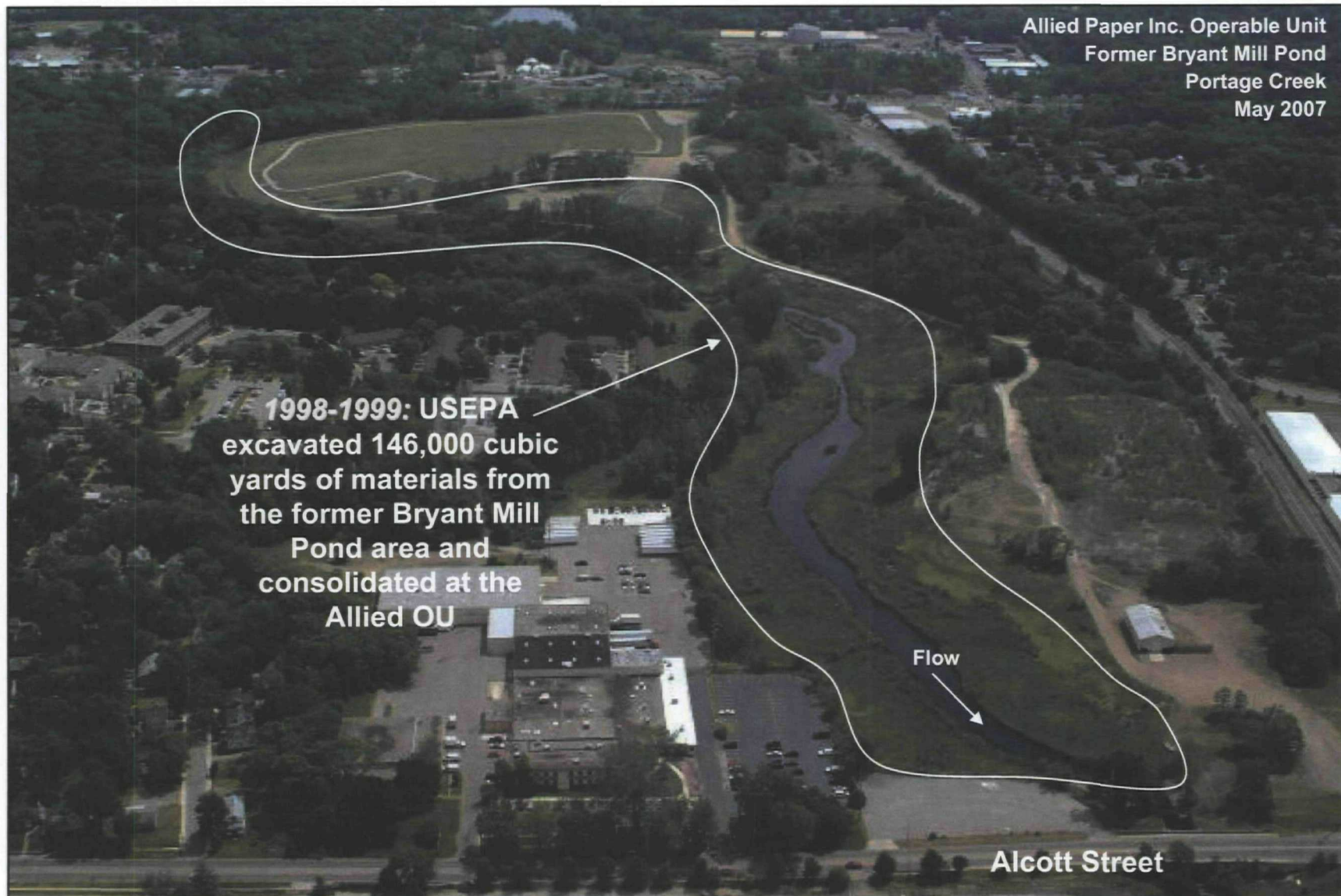
Location	Response Actions	Dates of Action
Past Response Actions		
Allied Paper Inc., Operable Unit	• Excavated 146,000 cubic yards (cy) of materials from Bryant Mill Pond	1998-1999
	• Removed 2,000 cy of materials from along Portage Creek and consolidated at the OU	2002
	• Stabilized berms and installed sheetpile walls along Portage Creek	Completed in 2001
	• Installed groundwater monitoring network (monitored quarterly, primarily for water level)	2000
	• Installed groundwater recovery and treatment system	2004
	• Installed 18-acre landfill cap	Completed in 2003
King Highway Landfill Operable Unit	• Excavated 58,000 cy of materials from areas directly adjacent to the KHL OU, King Street Storm Sewer, Kalamazoo Mill Lagoons, King Mill Lagoons, and other locations	1998-1999
	• Capped 23-acre site	Completed in 2000
	• Stabilized berms around the OU and installed sheetpile walls along the Kalamazoo River	1994, 1996, 1999
	• Installed groundwater monitoring network (monitored quarterly)	2000, 2002
	• Installed gas probes/cutoff trench	2003, 2006, 2008
Willow Boulevard/A-Site Operable Unit	• Excavated 7,000 cy sediment from river	1999-2000
	• Stabilized A-Site berms and installed sheetpile walls along the Kalamazoo River	1999
	• Consolidated materials at Willow Boulevard Site, regraded area, and installed a sand/soil cover for erosion protection	1999-2000
	• Constructed bridge and road over Davis Creek for access to A-Site	1999
(Simpson) Plainwell Mill	• Cleaned storm sewers	1995
Ongoing Response Actions		
Former Plainwell Impoundment TCRA	• Removal of 132,000 cy sediment and soil • Offsite disposal • Reconstruction/stabilization of river banks	2007-2009
Kalamazoo Mill/Hawthorne Mill TCRA	• Removed 50,000 cy soil from mill properties • In post-construction monitoring phase	2007-2012
Planned Response Actions		
Willow Boulevard/A-Site Operable Unit	• Removal of approx. 13,800 cy materials and consolidation with other materials onsite	Planned for 2010
12th Street Landfill OU (Weyerhaeuser Co. is the responsible party, not the KRSG)	• Record of Decision signed in 2001 • Consent Decree finalized in 2005 • Remedy calls for consolidation of PCB-containing materials and installation of a cap over the OU • Work will also include response actions at the Plainwell Mill	Work at the Plainwell Mill underway in 2008.

Allied Paper, Inc. Operable Unit

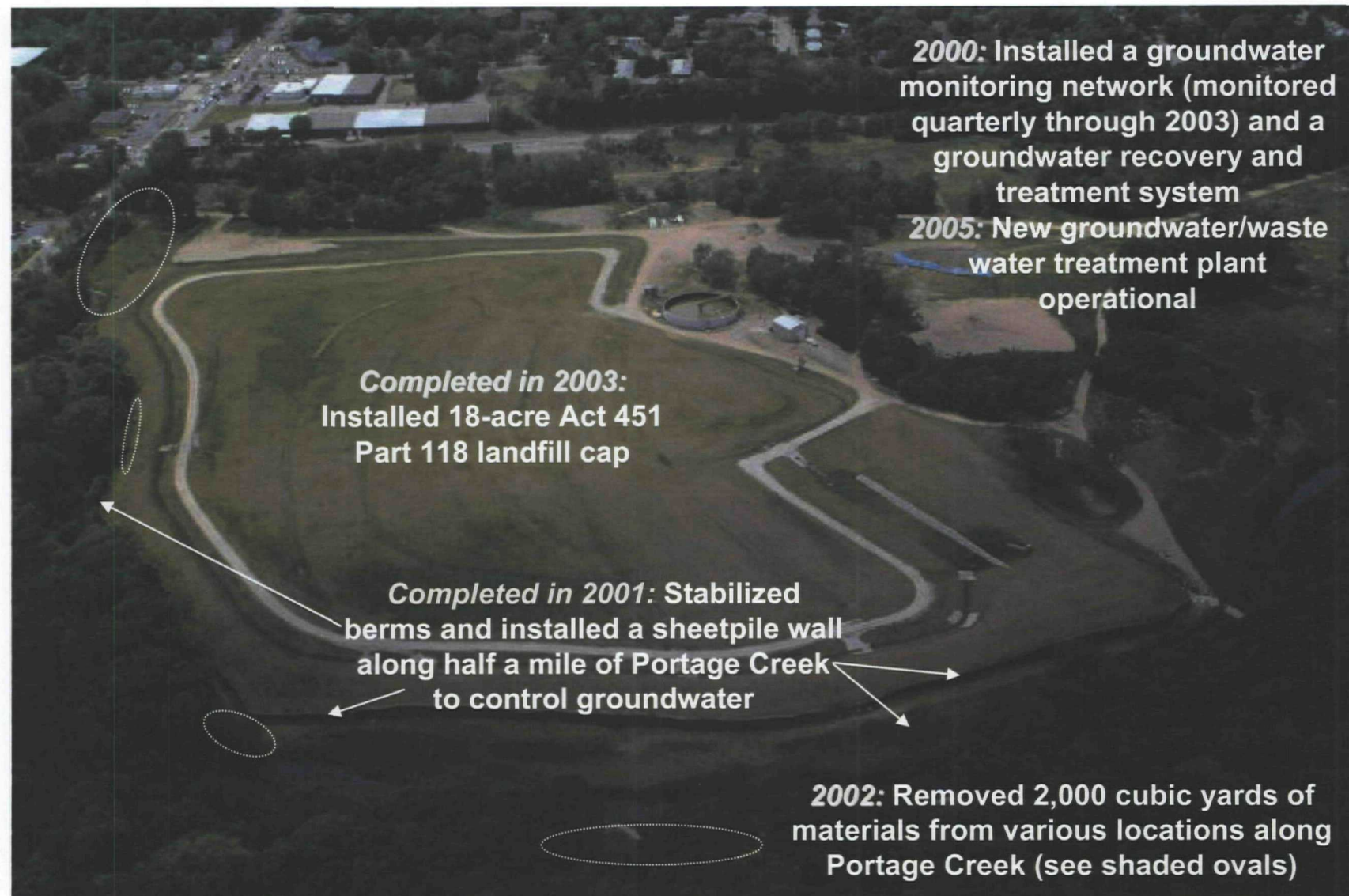
Allied Paper, Inc. Operable Unit and Portage Creek Corridor



Allied Paper, Inc. Operable Unit: Completed Response Actions: 1998 – 2004



Allied Paper, Inc. Operable Unit: Completed Response Actions (cont'd)



Allied Paper, Inc. Operable Unit: Current Situation



- USEPA/MDEQ published the Remedial Investigation Report in March 2008
- MHLIC will prepare the Feasibility Study Report and submit to USEPA in 2009
- Options for addressing remaining areas at the OU will be evaluated in the Feasibility Study
- To date, **no detections of PCBs** above established criteria in the groundwater-surface water interface zone or in the influent or effluent of the groundwater treatment system

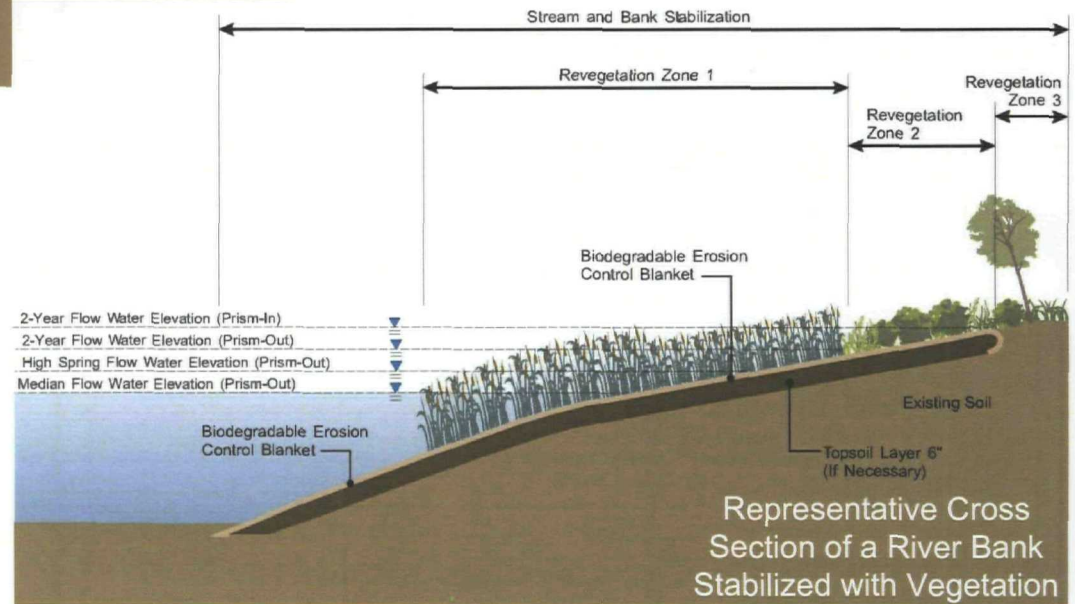
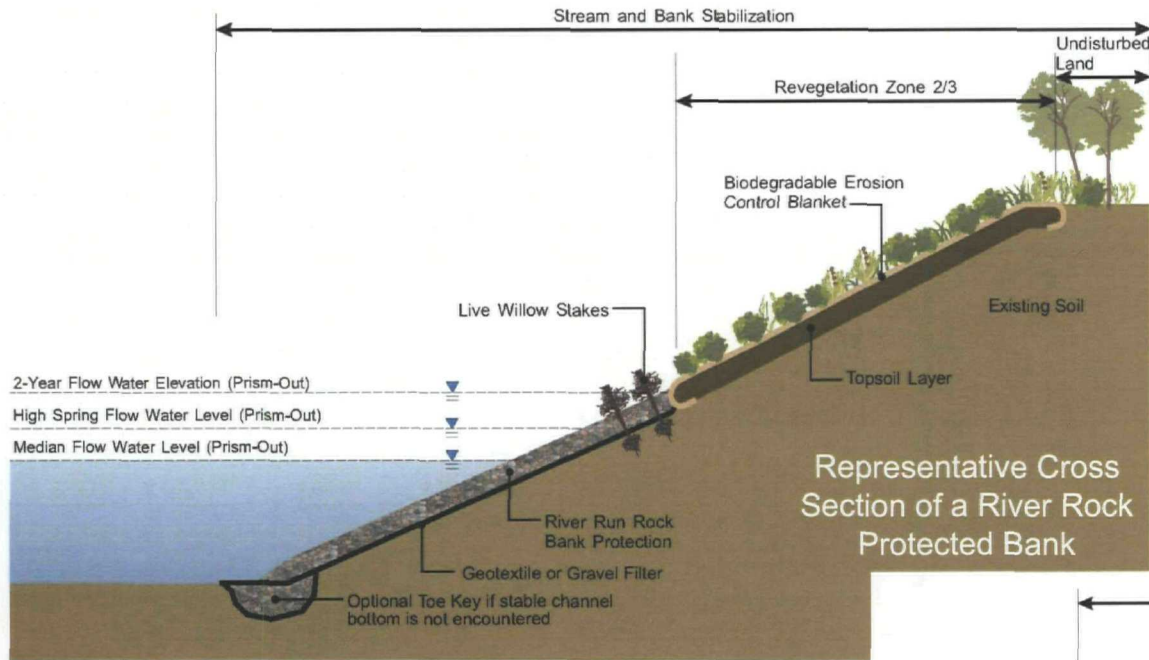
Plainwell Time-Critical Removal Action 2007 Summary and 2008 Overview



Time-Critical Removal Action in the former Plainwell Impoundment



Bank Stabilization Approaches

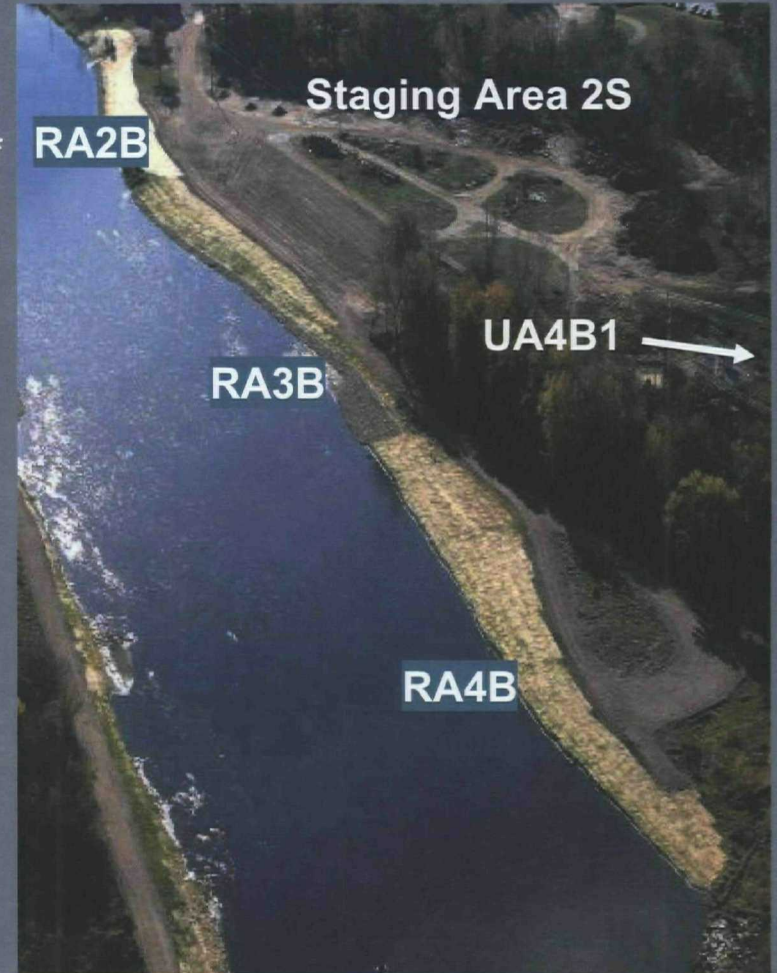


2007 Season:

Removal Areas 2B, 3B, and 4B Upland Area 4B1



Before (at left) and after (at right) views of the upstream removal areas on the southern bank of the river.



2007 Season:

Islands 1, 2, and 3 Removal Area 5

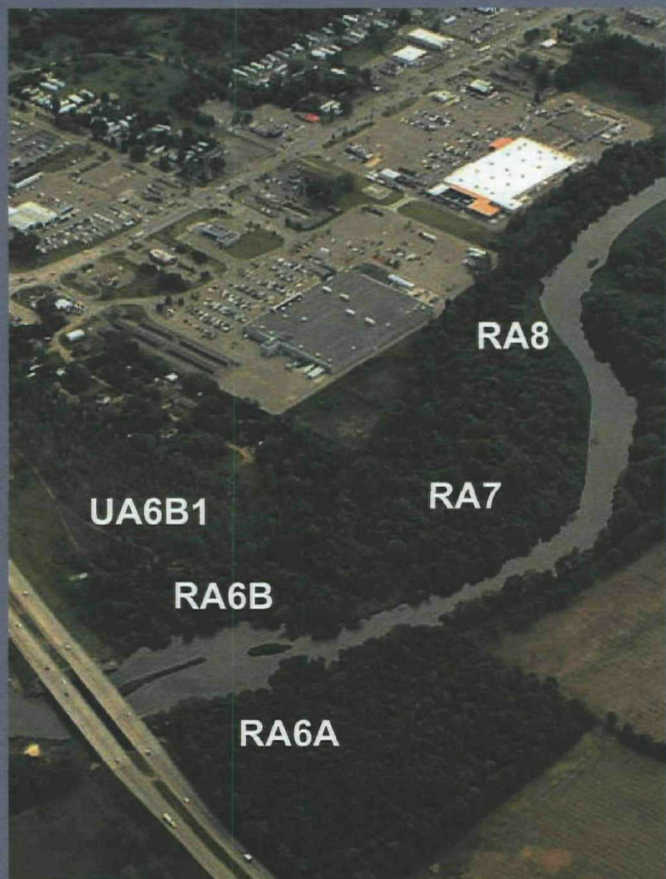


In July and August field crews were at work in Removal Area 5 and on Island 3, and by September were removing the two islands just downstream of the US-131 Bridge. Before (left) and after (below) photographs show the complete removal of Islands 1 and 2.



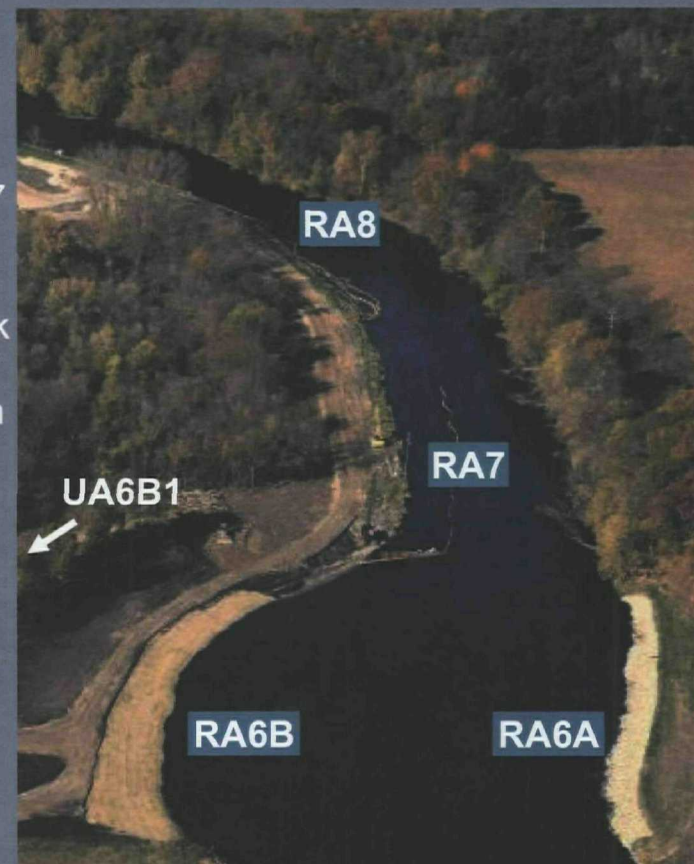
2007 Season:

Removal Areas 6A, 6B, 7, 8, and Upland Area 6B1



Downstream of the US-131 Bridge
in May 2007

Initial plans called for excavation efforts in the 2007 season to end with Removal Areas 6A and 6B, but the project team was able to work up through Removal Areas 7 and 8, getting a jump start on the 2008 season.



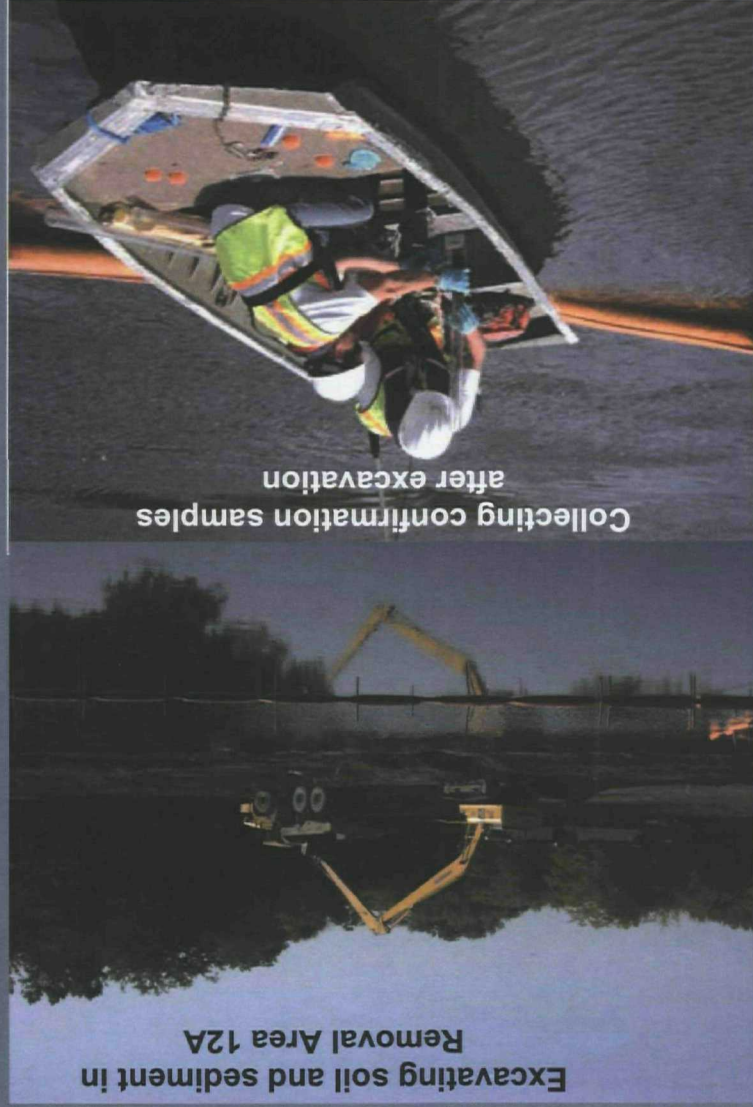
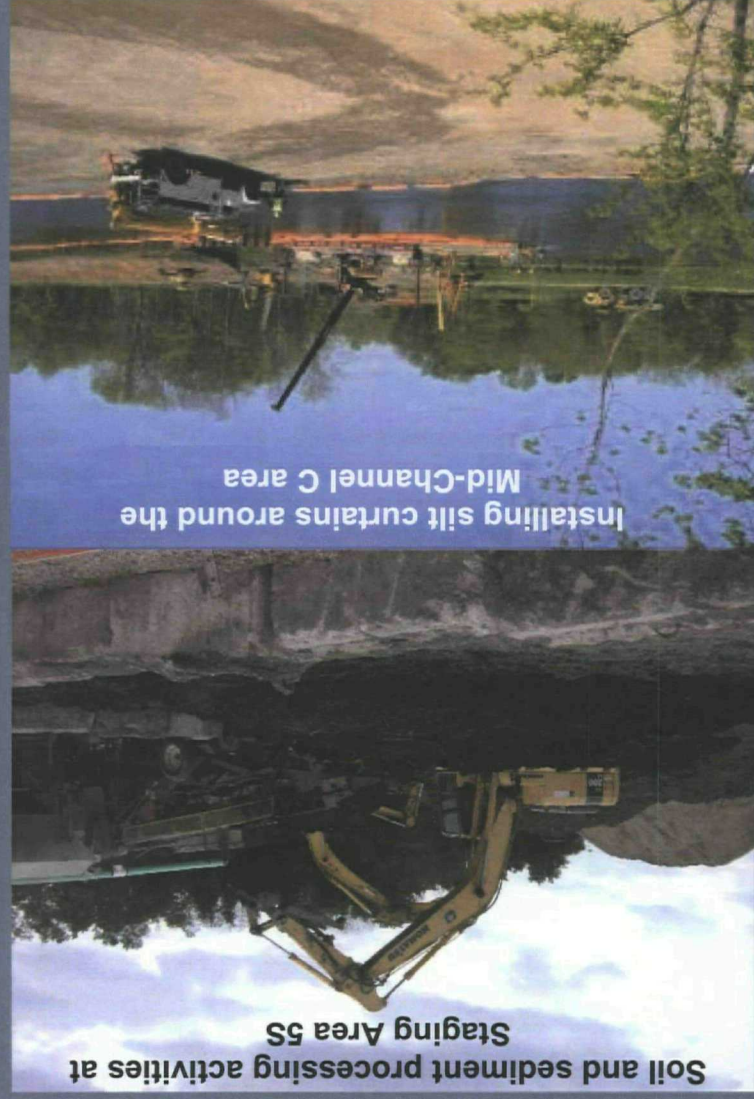
Downstream of the US-131 Bridge
in October 2007

2008 Season: Overview



- Construction Season: March through December
- 83,000 cy of material to be removed over 17.5 acres
- Cofferdam and Water Control Structure installation, operation, and removal

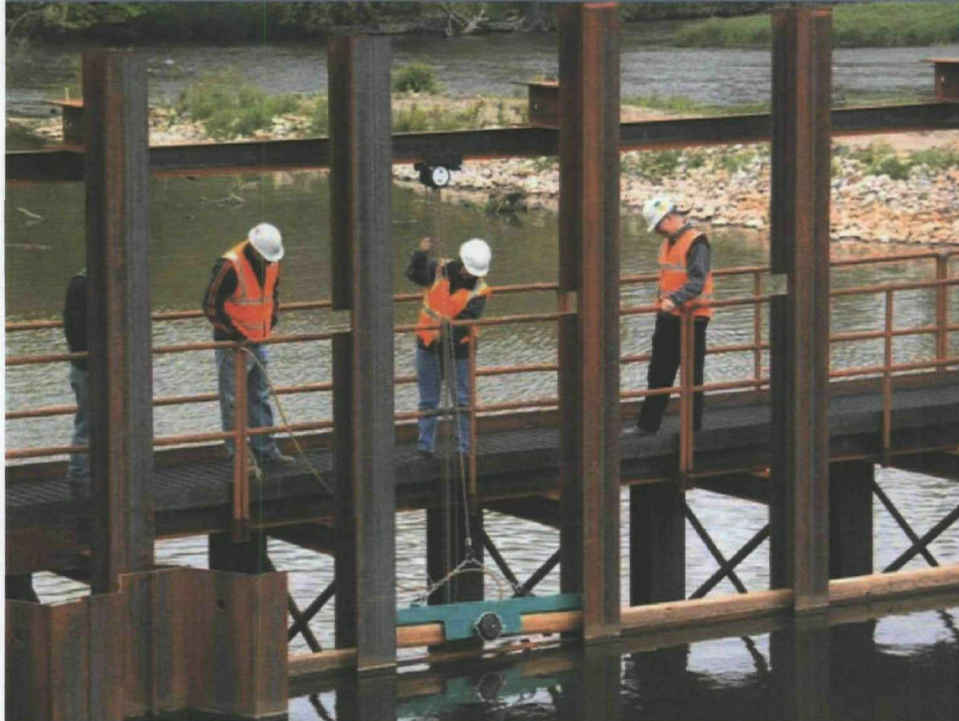
2008 Season: Progress through the end of September



A composite image showing a landscape. The top half features a body of water reflecting a bright, cloudy sky. The water is calm, creating a clear mirror image of the sky and the dark silhouettes of trees on the far bank. The bottom half of the image shows a close-up of a textured, light-colored surface, possibly a rock or a piece of bark, with some small green plants growing from it. The overall composition is framed by dense green foliage on the left and right sides.

2008 Season:

Operation of the Water Control Structure



Sharon Hanshue of the Michigan Department of Natural Resources pulling out the first stop log in the structure (May 2008)



View of the structure approximately two weeks after pulling the first stop log (May 2008)

September 2008 Flood Event

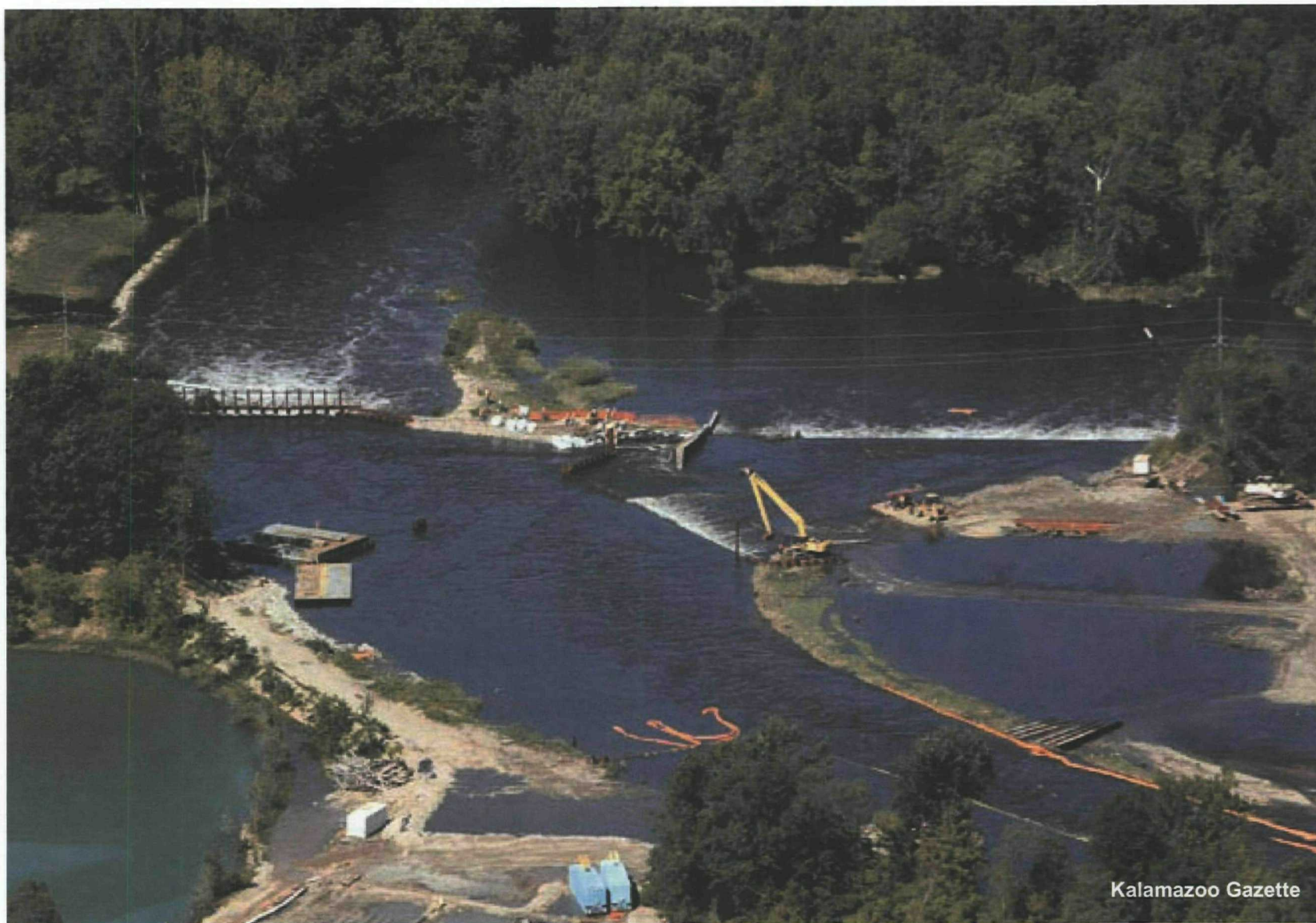
- **Precipitation started late Friday, September 12th – remnants of Hurricane Ike**
- **9 to 11 inches of rain fell in Southwest Michigan over a 48-hour period**
- **Water levels rose 5+ feet in same period**
- **WCS Operation Plan set to Red – remove all stop logs if possible**

Flood Event: Immediate Response

- Activated Plainwell Dam No. 1 Emergency Action Plan
 - City of Otsego closes two bridges downstream
- Cleared debris forest from WCS
- Cut stop logs to increase relief discharge
- Cut cofferdam wall to increase relief spillway dimensions and discharge
- Installed makeshift gabion structure at erosion hole
- Patched slope downstream of WCS

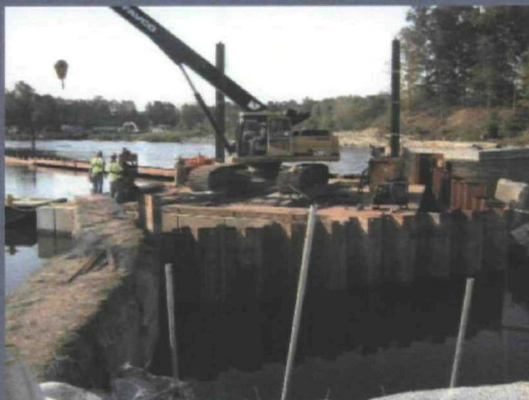
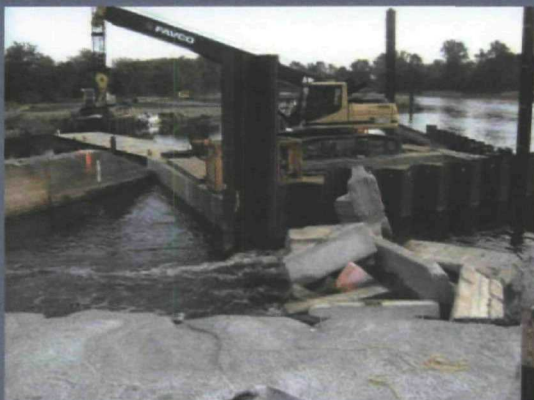


Situation on Tuesday afternoon, September 16



Flood Event: Secondary Response

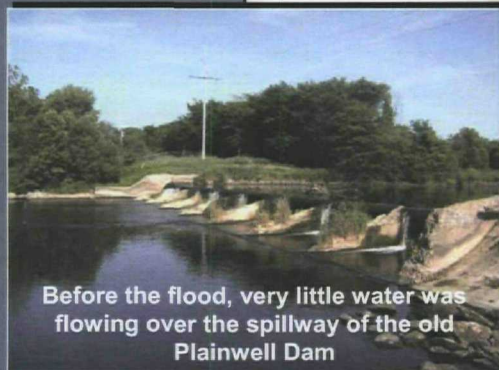
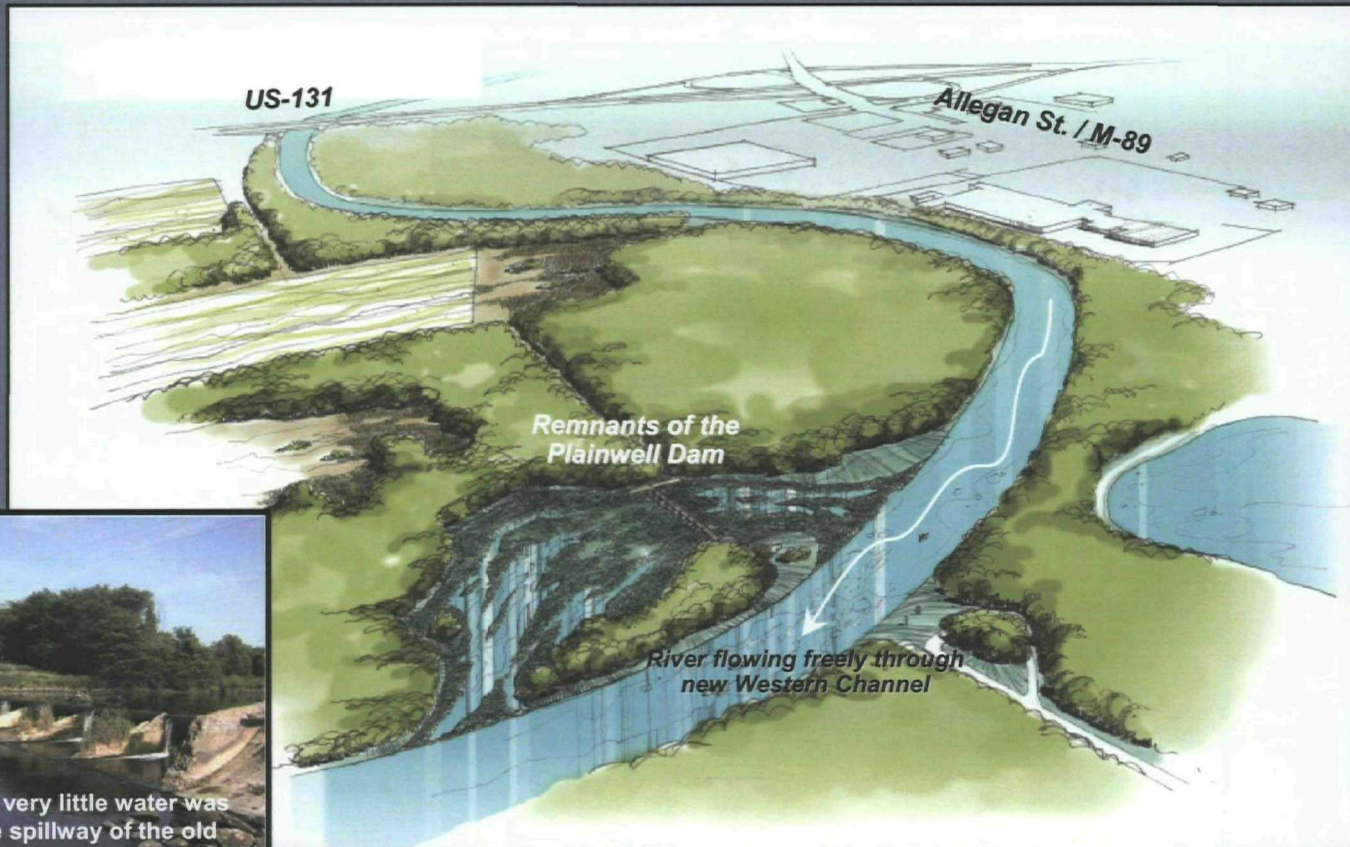
- Mobilized sectional barge to interior of cofferdam area
- Closed gap in cofferdam with concrete block berm
- Drove sheet pile to restore hydraulic control of cofferdam area
- Observed restored banks and remaining removal areas as water receded
- Resumed excavation activities week of September 22



Looking Forward:

Restoring the Historical Western Channel

- At the end of the 2008 season, the project team will remove the water control structure, restoring the flow of the river through the historical Western Channel



Before the flood, very little water was flowing over the spillway of the old Plainwell Dam